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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,665	12/12/2003	Daniel J. Dove	200315543-1	6257

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EXAMINER

RAHMAN, FAHMIDA

ART UNIT PAPER NUMBER

2116

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/734,665	<b>Applicant(s)</b> DOVE, DANIEL J.	
	<b>Examiner</b> Fahmida Rahman	<b>Art Unit</b> 2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/12/2003</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. Claims 1-30 are pending.

### Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 14, 20-21, 24-26, 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Weiler et al (US Patent 5936318).

For claim 14, Weiler teach the following limitations:

**A method of power distribution (abstract) to network devices (14-18 in Fig 2), the method comprising:**

**determining amounts** (35 stores the configuration of allocation of power consuming devices; lines 28-31 of column 4) **and priority levels of power** (34 stores the priority associated with devices, which can be considered the priority levels of power for the respective devices) **for the network devices connected to each power distributor** (combination of a strand and 42 can be considered a power distributor) **of a plurality of power distributors** (Fig 1);

**summing together the amounts at each priority level at each power distributor** (Fig 2 shows that 43 measures the load to determine the overload condition. That

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requires summing up the amount required by each device at each priority level at each strand or power distributor);

**and determining additional amounts and priority levels of power required beyond an internal power supply capability of each power distributor** (Lines 14-20 of column 6 mention that if the load exceeds the limit, it is connected to different strand. Therefore, determination of additional power required beyond the capability of each strand or power distributor is performed, so that the respective device can be connected to the proper strand. In addition, lines 10-12 of column 2 mention that the critical power consuming devices are reallocated. Each high priority device can be considered associated with high priority level of power. The system determines the high priority devices requiring high priority power that need to be reallocated to different strand or power distributor).

For claim 20, Weiler et al teach the following limitations:

**A method of distributing power (abstract) to network devices (14-18 in Fig 2), the method comprising:**

- **associating an amount** (35 stores the configuration of allocation of power consuming devices; lines 28-31 of column 4) **and priority level of power for each device** (34 stores the priority associated with devices, which can be considered the priority level of power for the respective device) **connected to a port (14') of a network switch (11);**

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- **maintaining in the switch a table of the amount and priority level for each switch port** (34 and 35 can be within 11 as mentioned in lines 56-60 of column 6);
- **and using the table to allocate available power to higher priority devices when insufficient power is available to fully power all of the connected devices** (lines 38-50 of column 6).

For claims 21 and 24, 43 in Fig 2 senses actual power drawn by the devices.

For claim 25, the overloaded load is disconnected from switch 42 as mentioned in lines 14-20 of column 6.

For claim 26, priority is associated with the device. Thus, priority level of power depends on type of device used.

For claim 29, note lines 22-32 of column 5 mentions about manual configuration by the operator.

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 11-13, 15-19, 27-28, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Weiler et al (US Patent 5936318).

For claim 1, AAPA teaches the following limitations:

A system for power distribution (Fig 1) to network devices (106), the system comprising: a plurality of network switches (104) each having an internal power supply ([0017] of page 1) and a plurality of ports for connecting to the network devices (Fig 1); an external power supply (102) having a plurality of output ports for connecting to the network switches (104), wherein the external power supply communicates power available to the network switches, wherein each network switch sends a power request to the external power supply, and wherein the external power supply allocates power to the network switches depending on the power requests received ([0016] of page 1).

AAPA does not teach the following limitations:

each network switch determines amounts and priority levels of power for the network devices connected thereto, sums together the amounts at each priority level,

determines additional amounts and priority levels of power required beyond the internal power supply capability.

Weiler et al teach the following limitations:

**A system for power distribution (abstract) to network devices (14-18 in Fig 2), the system comprising:**

- **a plurality of network switches (11) each having a plurality of ports for connecting the network devices (14-26);**
- external power supply (80A, 80B, 80C) having a plurality of output ports for connecting to the network switches (11);
- **wherein external power supply communicates power available to the network switches (Fig 1);**
- **Wherein each network switch (11) determines amounts (35 stores the configuration of allocation of power consuming devices; lines 28-31 of column 4) and priority levels (34 stores the priority associated with devices, which can be considered the priority level of power for the respective device) of power for the network devices connected thereto (lines 55-65 of column 5 mention that 41 and 42 are responsible for concrete allocation of connections of devices as specified by the configuration stored in 35. In addition, lines 52-60 of column 6 mention that decentralized operation through allocation unit can be carried on. Thus, the whole control can be performed within the respective allocation unit);**

- **sums together the amounts at each priority level** (Fig 2 shows that 43 measures the load to determine the overload condition. Lines 45-51 of column 6 mention that total power consumption load is compared to available power supply. That requires summing up the amount required by each device at each priority level to measure if the combined load exceeds the capacity of the system. In such a case, system will disconnect a low priority load. In addition claim 17 mentions about determining total load);
- **and determining additional amounts and priority levels of power required beyond an internal power supply capability** (Lines 14-20 of column 6 mention that if the load exceeds the limit, it will be disconnected and will be connected to different strand according to priority rule. Therefore, determination of additional power required beyond the capability of each strand is performed by the system so that the respective device can be connected to the proper strand. In addition, lines 10-12 of column 2 mention that the critical power consuming devices are reallocated. Each high priority device can be considered associated with high priority level of power. The system determines the high priority devices that require high priority power and need to be reallocated to different strand if current strand is overloaded)

It would have been obvious to one ordinary skill in the art at the time the invention was made to combine the teachings of AAPA and Weiler et al, to modify the system of AAPA so that the power distributor of AAPA can take the advantage of prioritized allocation unit of Weiler et al. One ordinary skill in the art would have been motivated to have the



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prioritized power distribution of Weiler et al to the system of AAPA, that would ensure the power to be provided to important power consuming devices despite the failure of one or more power supply circuits.

For claims 2 and 3, note 108 of Fig 1 of applicant's specification, which is a serial cable.

For claim 4, 11 of Weiler et al has a programmable current sense and control unit.

For claim 5, 27 is the control unit and 33 is the control bus.

For claim 6, 42 of Fig 1 performs the control and current sensing.

For claim 7, 41 is the controller and 52 is the bus.

For claim 11, neither AAPA nor Weiler et al teach that the power requests are determined by arbitration between switches.

Examiner takes an official notice that arbitration between requests from different devices is well known in the art. One ordinary skill in the art would have been motivated to have the arbitration, so that the system guarantees all of the switches to be allocated with power in their respective slot of arbitration.

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For claims 12 and 13, AAPA teaches that master-slave and peer-to-peer are well known in the art ([0050] of page 4).

It would have been obvious for one ordinary skill in the art at the time the invention was made to have master/slave arbitration or peer-to-peer arbitration depending on the applicability of the situation, since master/slave arbitration works well for a simplified system and peer-to-peer arbitration works well where master/slave arbitration is not feasible.

For claim 15, AAPA teaches that the external power supply communicates power available to the network switches, each network switch sends a power request to the external power supply, and the external power supply allocates power to the network switches depending on the power requests received ([0016] of page 1).

For claim 16, note 108 of Fig 1 of applicant's specification, which is a serial cable.

For claim 17, neither AAPA nor Weiler et al teach that the power requests are determined by arbitration between switches.

Examiner takes an official notice that arbitration between requests from different devices is well known in the art. One ordinary skill in the art would have been motivated

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to have the arbitration, so that the system guarantees all of the switches to be allocated with power in their respective slot of arbitration.

For claims 18 and 19, AAPA teaches that master-slave and peer-to-peer are well known in the art ([0050] of page 4).

It would have been obvious for one ordinary skill in the art at the time the invention was made to have master/slave arbitration or peer-to-peer arbitration depending on the applicability of the situation, since master/slave arbitration works well for a simplified system and peer-to-peer arbitration works well where master/slave arbitration is not feasible.

For claims 27 and 28, neither AAPA nor Weiler et al teach the type of high priority device. One ordinary skill in the art would have been motivated to have IP-enabled telephone device or wireless access point so that communication devices are always active in the system, which is desirable in airline system.

For claim 30, neither AAPA nor Weiler et al teach that the external supply and the switches can be in same unit.

However, integrating external supply with plurality of switches can be available in rack mounted system. One ordinary skill in the art would have been motivated to integrate

external supply and the switches into a same unit when implementing a rack mounted system.

4. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Weiler et al (US Patent 5936318), further in view of Toyomura (US Patent 4486759).

For claims 8-10, power switch 42 can be considered a multiplexer, since it selects the appropriate strand based on signal from 41. However, 42 does not select between an internal power supply and external power supply.

The system of Toyomura teaches a power multiplexer that selects between external and internal supplies.

It would have been obvious for one ordinary skill in the art to combine the teachings of AAPA, Weiler et al and Toyomura. The system of AAPA modified by Weiler et al need a power multiplexer to select between external and internal supply so that the power distributor can supply power to devices in case of complete failure of external supply.

5. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiler et al (US Patent 5936318), further in view of Toyomura (US Patent 4486759).

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For claims 22-23, power switch 42 can be considered a multiplexer, since it selects the appropriate strand based on signal from 41. However, 42 does not select between an internal power supply and external power supply.

The system of Toyomura teaches a power multiplexer that selects between external and internal supplies.

It would have been obvious for one ordinary skill in the art to combine the teachings of AAPA, Weiler et al and Toyomura. The system of AAPA modified by Weiler et al need a power multiplexer to select between external and internal supply so that the power distributor can supply power to devices in case of complete failure of external supply.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fahmida Rahman whose telephone number is 571-272-8159. The examiner can normally be reached on Monday through Friday 8:30 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on 571-272-3670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fahmida Rahman  
Examiner  
Art Unit 2116

A handwritten signature in black ink, appearing to read 'Thuan N. Du', with a long horizontal flourish extending to the right.

**THUANN.DU**  
**PRIMARY EXAMINER**